

TENTATIVE
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM

ORDER NO. R5-2005-~~0833~~ _____

FOR

COALITION GROUPS

UNDER

~~RESOLUTION ORDER~~ NO. R5-2005-~~_____~~ 3-0105
COALITION GROUP CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

As ~~conditioned-stipulated~~ by the *Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands Order No. R5-2005-_____* (Coalition Group Conditional Waiver) ~~Resolution No. R5-2003-0105 (Order)~~, Coalition Groups shall develop and implement a monitoring program to assess the sources and ~~effects impacts~~ of waste ~~in-discharges~~ from irrigated lands, and where necessary, to track progress of existing or new management practices implemented to ~~reduc~~ing the amount of waste discharged that affects the quality of the waters of the Sstate and its beneficial uses.

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) adopts this Monitoring and Reporting Program (MRP) pursuant to California Water Code (Water Code) Sections 13267 and 13269. The Coalition Groups represent ~~individual D~~ischargers ~~who that~~ discharge waste to waters of the Sstate. The reports required by this MRP~~Order~~ are ~~necessary~~needed to evaluate ~~the effects on water quality impacts of discharges~~ of waste discharges to waters of the Sstate and to determine compliance with the terms and conditions of the Coalitin Group Conditional Waiver. The Central Valley Water Board Executive Officer may revise the MRP as appropriate. Coalition Groups shall comply with the MRP as revised by the Executive Officer. ~~This MRP replaces MRP No. R5-2003-0826, which is hereby rescinded.~~

~~The purpose of t~~This MRP ~~is to~~ describes the minimum reporting requirements to include in for an acceptable Coalition Group MRP Plan. The purpose of the MRP Plan ~~is to shall be to~~ monitor the discharge of wastes in irrigation return flows and stormwater from irrigated lands that are enrolled with the Central Valley Water Board's Irrigated Lands Conditional Waiver Program (Program) under the Coalition Group Conditional Waiver. The Coalition Group shall prepare and submit to the Central Valley Water Board, for review and approval by the Executive Officer, an MRP Plan that meets the minimum requirements of this MRP and includes proposed monitoring ~~sites to be monitored~~, frequency of monitoring, parameters to be monitored, and documentation of monitoring protocols. The MRP Plan will be reviewed ~~Executive Officer will review the MRP Plan~~ to determine if it meets or exceeds the minimum requirements of this MRP~~Order~~. The submittal of an acceptable MRP Plan is a condition of the Coalition Group Conditional Waiver.

The development of a science-based water quality monitoring program is critical ~~to for~~ determining actual and potential ~~effects impacts on water quality~~ of waste discharges ~~of waste~~ from irrigated lands on beneficial uses of water in the Central Valley Region. Determining the existing ecological conditions of agriculturally-dominated water bodies is a critical goal of a water quality monitoring program and should be achieved by multiple assessment tools such as toxicity, chemical monitoring,

and bioassessments^a, as necessary. The MRP Plan is a part of the Central Valley Water Board Program to assess the effects on water quality of these discharges on waters of the State.

I. MONITORING AND REPORTING PROGRAM REQUIREMENTS

The Coalition Group shall submit to the Central Valley Water Board a detailed MRP Plan that supports the development and implementation of a monitoring plan and demonstrates the effectiveness of the Coalition Group Watershed Program to comply with conditions of the Coalition Group Conditional Waiver.

The MRP Plan shall be designed to achieve the following objectives as a condition of the Coalition Group Conditional Waiver:

- Assess the effects on water quality~~impacts~~ of waste discharges from irrigated lands to ~~surface~~ waters of the State;
- Determine the degree of implementation of management practices to reduce discharge of specific wastes that ~~degrade~~~~impact~~ water quality in watersheds, subwatersheds, or drainage areas ~~w~~here water quality problems have been identified through monitoring;
- Determine the effectiveness of management practices and strategies to reduce discharges of wastes that ~~degrade~~~~impact~~ water quality;
- Determine concentration and load of waste in these discharges to surface waters; and
- Evaluate compliance with receiving water limitations ~~existing narrative and numeric water quality objectives~~ to determine if implementation of additional management practices is necessary to improve and/or protect water quality.

In order to focus the monitoring effort in a cost effective and efficient manner, ~~the monitoring a phased~~ process ~~is need~~ed for the use ~~of~~ various assessment tools (i.e. chemical monitoring, toxicity testing, and bioassessments). A ~~recent~~ conference sponsored by the California Water Institute entitled “*Understanding Surface Water Monitoring Requirements*” provides excellent guidance on the use of various monitoring tools (California Water Institute, 2002).

A. Historical Data (Previously Section I.3)

Historical water quality data ~~have~~s been used ~~to for~~ listing various water bodies as impaired under Clean Water Act Section 303(d). Therefore, synthesis and statistical analysis of all historical data by site and date is a critical first step ~~to for~~ designing a science~~-~~based monitoring program in a watershed. Historical analysis will provide a benchmark for measuring change (progress) in reducing concentrations of wastes due to management practices and will provide rationale for the monitoring site selection process (i.e. continue to monitor sites with extensive temporal data for wastes or water quality parameters). It is also possible that spatial analysis of historical data will reveal sites where data are lacking and that should be monitored in the future. Coalition Groups shall collect and review historical data for all wastes in the various watersheds in advance of developing monitoring designs.

^a Letter to Art Baggett and Thomas Pinkos from Don Gordon, Agricultural Council of California, August 5, 2002.

This critical initial step in developing a MRP Plan will focus the study, provide rationale for the monitoring site selection process, and reduce costs.

B. Monitoring Sites *(Previously Section I.8)*

The MRP Plan shall describe the study area, sampling-monitoring sites, sampling-locations, GPS coordinates, crops and land use in the watershed, and the chemicals being used, ~~and the existing management practices in the watershed.~~ The numbers and locations of sites must be sufficient to characterize water quality for the watershed, based on specific watershed characteristics, and ~~be~~ supported by a detailed discussion of these characteristics.

Monitoring sites shall be selected for ~~various~~ watersheds based on varying sizes and flows of water bodies ~~(mainstem river, tributaries and agricultural drainage), and~~ land use (e.g., agricultural activities and pesticide use) focusing on diversity across the watershed. Monitoring sites must be established initially on the water bodies that are carrying agricultural drainage into natural water bodies. ~~If results indicate that water quality objectives are exceeded at any site, monitoring for the COCs (constituents exceeded water quality objectives) shall continue and the monitoring must be expanded upstream in a systematic search for sources. All major drainages must be part of baseline monitoring. At least 20% of the intermediate drainages must be monitored during the first year and the second 20%, the second year, etc. Smaller drainages will be monitored if the evaluation of data from the larger drainages or receiving water indicates water quality problems. The major, intermediate, and small drainages based on hydrology, size and flow of the waterbodies are different for each watershed. Therefore, Coalition Groups shall provide scientific rationale for the site selection process based on historical and on-going monitoring, drainage size, and land use. The size of major, intermediate, and small drainages within the sub watershed shall be discussed in the MRP Plan and how the size of these drainages was used to develop the monitoring sites.~~ *(Portions Of Deleted Text Moved To Section I.D)* Monitoring sites should not include main-stem water bodies already on the Clean Water Act section 303(d) listed ~~waterbody~~. These sites should be monitored-evaluated only to determine the degree of implementation of management practices needed to reduce discharge of constituents of concern (COCs) listed on the 303(d) List. ~~The initial focus of the MRP Plan shall be on waterbodies that carry agricultural drainage or are dominated by agricultural drainage. The MRP Plan shall include a detailed map showing the monitoring sites shall be provided with the MRP Plan and crop and land use.~~

C. Monitoring Seasons *(Previously Section I.6)*

Monitoring ~~required in Section 1 "Types of Monitoring and Evaluation"~~ shall be conducted during the irrigation and storm seasons. The storm season, ~~which~~ coincides with ~~the orchard~~ dormant spray applications. In general, the irrigation season is March through August, but may start as early as February and extend to October. The storm season is December through February, but may include November and March. The MRP Plan shall describe the irrigation and storm seasons, propose specific irrigation and storm season monitoring periods for the region, and discuss when peak irrigation and storm discharges are likely to occur ~~phased monitoring program for irrigation and storm seasons.~~

~~TENTATIVE~~ MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-~~0833~~
FOR COALITION GROUPS UNDER
~~RESOLUTION ORDER~~ NO. R5-2005-~~3-0105~~
~~COALITION GROUP~~ CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 4 -

~~Each phase of monitoring shall include monitoring of two major storm events during one storm season and monthly sampling during one irrigation season followed by collection and evaluation of data. Data must be submitted to the Executive Officer for review and approval. The Coalition Group shall design a monitoring phase based on the results of the previous phase. A revised MRP Plan shall be submitted for each phase for approval by the Executive Officer.~~ *(Paragraph Moved to Section I.D. Ninth Paragraph)*

~~1. Types of Monitoring and Evaluation~~

~~To achieve the objectives of the MRP, at a minimum, the Coalition Group shall conduct the types of monitoring and evaluation listed below. The monitoring will be conducted during different phases of the MRP.~~ *(MOVED TO SECTION III.A.)*

- ~~a. Toxicity Testing;~~
- ~~b. Water Quality (constituents listed in Table 1) and Flow Monitoring;~~
- ~~c. Pesticide Use Evaluation; and~~
- ~~d. Evaluation of the effectiveness of management practices and tracking levels of implementation in the watershed.~~

~~These testing requirements are described below:~~

- ~~☐ Toxicity Testing~~

~~D. Assessment Monitoring~~ *(New Section)*

~~The MRP Plan shall include a Long-Term Monitoring Strategy, as described in Section III.A *MRP Plan* that shall provide a schedule for proposed assessment monitoring including monitoring sites, sampling start date, time of the year, when field studies will take place *(begin and end)*, and frequency of sampling, and when the field studies end. Timing, duration, and frequency of sampling should be based on the complexity, hydrology, size of, and flows of the water-bodyies. Historical data must be reviewed to assist with determining some of these factors.~~ *(Previously in Section 7)*

Water quality and flow monitoring ~~shall be~~ used to assess the sources of wastes and loads in discharges from irrigated lands to surface waters and to evaluate the ~~performance-effectiveness~~ of management practice implementation efforts. *(Previously Section I.1 second bullet)* Water quality is evaluated by both field measured parameters and laboratory analytical data. Field measured parameters shall include, at a minimum, flow, pH, electrical conductivity, temperature, and dissolved oxygen. Laboratory analytical data must include, but not be limited to, the list of constituents, parameters, and tests in Table 1 of this MRP. Flow, dissolved oxygen, and temperature are listed in Table 1, but are field measured parameters and are not required for analysis by a laboratory.

Monitoring data shall be compared to existing numeric and narrative water quality objectives. *(Previously Section I.1 second bullet)* Representative flow measurements shall be obtained at each sample location during each sampling event. ~~Additionally, t~~ The presence or absence of flow at each

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 5 -

sample site shall be noted at a sufficient frequency to determine the total quantity discharged during the irrigation season. The MRP Plan shall include specifications to record the time, date, and location of each flow measurement or observation (absences for no flow) on field data sheets. An example field data sheet is provided in MRP Attachment A. Discharge flow monitoring shall be conducted and shall be reported in cubic feet per second. (Previously Section I.5)

Bioassessment monitoring protocols are at the developing phase-stage and there are no Basin Plan requirements or standards addressing the results of bioassessment monitoring at this time. Coalition Groups are encouraged to conduct bioassessments to collect data that may be used as reference sites and provide information for scientific and policy decision making in the future. Bioassessments may serve monitoring needs through three primary functions: 1) screening or initial assessment of conditions; 2) characterization of impairment and diagnosis; and 3) trend monitoring to evaluate improvements through the implementation of management practices. Bioassessment data from all wadeable impaired water bodies may serve as an excellent benchmark for measuring both current biological conditions and success of management practices. Bioassessment monitoring shall not be done at the expense of required MRP water quality monitoring. (Previously in Section I.4)

Activities within the Coalition Group area watershed and the discharge to use of the receiving waters must be evaluated using aquatic toxicity testing. The purpose of the toxicity testing is to: 1) evaluate compliance with the narrative toxicity objective; 2) to identify the causes of toxicity observed (e.g., sediment, ~~contaminants~~ pesticides, salt, etc.); 3) evaluate an additive toxicity or synergistic effects due to presence of multiple constituents; and to 4) determine the sources of the toxicants identified. (Previously Section I.1 first bullet)

Acute toxicity testing shall be conducted using the invertebrate, Ceriodaphnia dubia (water flea), and the larval fathead minnow; Pimephales promelas; according to standard USEPA acute toxicity test methods^b. In addition, to identify toxicity caused by herbicides, 96-hour toxicity tests with the green algae, Selenastrum capricornutum (green algae), shall be conducted^c. The water column toxicity testing will be used as an indicator for wastes that are water-soluble. Sediment toxicity testing using the invertebrate species Hyaella azteca or Chironomus tentans according to USEPA methods^d shall be conducted for hydrophobic (sediment bound) wastes that are present in the water body.

For this initial screening, 100% (undiluted) sample shall be tested. If, during the initial toxicity screening, a 50% or greater difference in test organism mortality is detected at any time between an ambient sample (i.e., from a stream site) and the laboratory control during an acceptable Ceriodaphnia dubia or Pimephales promelas test, or a 50% or greater difference in test organism growth is detected between an ambient sample (i.e., from a stream site) and the laboratory control at the end of an

^b USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. Office of Water, Washington, D.C. EPA-821-R-02-012.

^c USEPA. 2002. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition. Office of Water, Washington, D.C. EPA-821-R-02-013.

^d USEPA. 1994. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. Office of Research and Development, Washington, D.C. EPA-600-R-94-024.

acceptable Selenastrum capricornutum test, then a Toxicity Identification Evaluation^e (TIE) and chemical monitoring shall be conducted on that same sample. The Coalition Group shall instruct the laboratory to immediately begin TIE once a 50% or greater mortality or difference in growth is observed in the toxicity sample. At a minimum, a Phase I TIE^f should be conducted to determine the general class (i.e., metals, non-polar organics such as pesticides, surfactants, etc.) of the chemical causing toxicity. This minimum TIE effort will determine the type of chemical monitoring necessary to identify the specific agents causing toxicity. Phase II^g TIEs may also be utilized to identify specific toxic agents.

If at any point during the initial toxicity screening the mortality reaches 100%, a multiple dilution test is required. A multiple dilution test on the same sample must include a minimum of five (5) sample dilutions. The TIE will be conducted to determine the cause of toxicity and the multiple dilution test will determine the magnitude of the toxic response. Sites identified as toxic (statistically different from the laboratory control) in the initial screen shall be re-sampled to estimate the duration of the toxicant in the water body. Additional samples collected upstream of the original site ~~shall also~~ be collected, as specified in Section I.E. Compliance Monitoring for toxicity sampling schedule and timing for required re-sampling, to determine the potential source(s) of the toxicant in the watershed. (Last 3 paragraphs previously in Section I.2.A - Monitoring Phase I)

The assessment monitoring of the Long-Term Monitoring Strategy must consider watershed specific requirements such as include watershed COCs based on the characteristics of the Coalition Group area watershed and the receiving water quality conditions. Some Coalition Group areas watersheds may need to conduct more extensive toxicity testing or increase the number of monitoring sites if toxicity or exceedances of receiving water limitations ~~have~~ been documented by previous monitoring. Watershed specific requirements will include follow up analyses on specific COCs, such as e.g., specific metals or pesticides. (Previously Section I.4 – Watershed Specific Requirements)

The assessment monitoring of the Long-Term Monitoring Strategy shall:

- Focus on diversity of monitoring sites across the Coalition Group area (hydrology, size, and flow); (From Section I.7)
- Evaluate different types of water bodies for assessment; (From Section I.8)
- Include a sufficient number of sampling sites to assess the entire Coalition Group area and all drainages; (From Section I.4)
- Propose a systematic approach, including timing, to sample initial monitoring sites and sites upstream of initial monitoring sites until the Coalition Group area is fully characterized and assessed; (From Section I.8)
- Include sampling sites in areas of known water quality impairments that is not a Clean Water Act Section 303(d) listed water body; (From Section I.8)

^e A TIE is a set of sample manipulation procedures designed to identify the specific causative agent(s) responsible for the observed toxicity.

^f USEPA. 1998. Methods for Aquatic Toxicity Identification Evaluations. Phase I Toxicity Characterization Procedures. Office of Research and Development, Duluth, MN. EPA-600-3-88-034.

^g USEPA. 1998. Methods for Aquatic Toxicity Identification Evaluations. Phase II Toxicity Identification Procedures. Office of Research and Development, Duluth, MN. EPA-600-3-88-035.

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005- 0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005- 3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 7 -

- Provide scientific rationale for the site selection process based on historical and/or on-going monitoring, drainage size, and land use; (From Section I.8)
- Discuss the criteria for the selection of initially proposed monitoring sites; (From Section I.8)
- Conduct initial focus of the monitoring on water bodies that carry agricultural drainage or are dominated by agricultural drainage; (From Section I.8)
- Identify priorities with respect to work on specific watersheds, subwatersheds, and water quality parameters; and (From Section I.2)
- Include the requirements provided in Table 1 of Section I.F Minimum Analytical Monitoring Requirements.

The assessment monitoring must include a sufficient number of monitoring sites based on acreages and surface watershed characteristics, flow monitoring, and frequency of sample collection for each location to allow for the calculation of the load discharged for every parameter monitored and include the use of proper sampling techniques and laboratory procedures to ensure a sample is representative of the site and is performed in the laboratory using approved methodologies. (From Section I.4 – sentences from 2 different paragraphs)

Coalition Groups should be encouraged to review the on going monitoring in their Coalition Group area watershed and coordinate the monitoring efforts to avoid duplication. (From Section I.3) All coordinated monitoring data will need to be included in Coalition Group monitoring reports. The use of coordinated monitoring information for Coalition Group compliance data will require the approval of the Executive Officer.

E. Compliance Monitoring (New Section)

Compliance monitoring is the sampling required to follow-up on an exceedance of a receiving water limitation or water quality objective or any reason that the data from the assessment monitoring does not meet the requirements of the Coalition Group Conditional Waiver and MRP. As part of the compliance monitoring, the Coalition Group shall re-sample the monitoring site(s) where the exceedance was reported for each constituent that exceeds a receiving water limitation or water quality objective and sample two or more sites upstream of the monitoring site with the exceedance (a total of three or more samples) within 72 hours of submittal of the Exceedance Report (see Section III.B.1 for Exceedance Report requirements). The Coalition Group shall request the laboratory to analyze the samples for the constituent(s) representing the exceedance in the original sample and any parameter needed to compare the results with the receiving water limitations (i.e., hardness). The Coalition Group will continue this re-sampling strategy for each detection that is an exceedance in the re-sampling results, until re-sampling results are below the receiving water limitation that implements the appropriate Basin Plan's water quality objectives. The Coalition Group shall provide the GPS coordinates for each of the sampling locations.

In addition to compliance monitoring re-sampling, the Coalition Group shall collect and evaluate information from Dischargers located in a watershed-Coalition Group area where a receiving water limitation quality parameter exceedance has been found. is identified at a concentration that violates an

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 8 -

~~established water quality objective as prescribed in the appropriate Basin Plan.~~ The Coalition Group will determine the geographic areas within their ~~areas~~watershed that may be the potential source of the exceedance through follow up monitoring, the County Agricultural Commissioners' offices, or other information that may be available. The Coalition Group will contact Dischargers or other appropriate entities in the identified areas. The contact will include an explanation of the exceedance that occurred, the likely cause of the exceedance, and an explanation of the need to determine management practices that are being implemented in the area and possible management practices that can be used to minimize and/or eliminate the exceedance. (Previously part of Section I.1 – fourth bullet) Information must be collected from ~~D~~dischargers on the type of management practices that are being used, the degree to which they are being implemented within the Coalition Group area~~watershed~~, and how effective they are in protecting waters of the ~~S~~state ~~through all phases of monitoring.~~ (Previously part of Section 2.A – last paragraph) The contact should also provide information on any management practices being developed through research projects. (Previously part of Section I.1 – fourth bullet)

Part of identifying the potential source area will include gathering information on the timing of pesticide applications, the application rates, the amounts of pesticide applied, and the points of application (all of these factors can be referred to as "use pattern"). This information can be found in the pesticide use reports submitted by the applicators to the County Agricultural Commissioners and Department of Pesticide Regulations. Changes in pesticide concentrations at specific monitoring sites in the water bodies ~~shall need to~~ be compared to pesticide use patterns in land areas upstream of the monitoring sites. By comparing these changes, it may be determined how changing the pesticide use patterns could ~~affect~~impact water quality. Changing pesticide use patterns can also provide an indicator of the degree of implementation of certain management practices. (Previously Section I.1 – third bullet)

The Coalition Group shall take affirmative steps to identify appropriate management practices. Such steps may involve management practices workshops and/or develop a management practices worksheet questionnaire to determine the management practices being used in the identified areas. The Coalition Group may conduct such outreach efforts or develop the workshops and worksheets with the assistance of the County Agricultural Commissioners, U.C. Cooperative ~~Service~~, Natural Resources Conservation Service, Resource Conservation District, or other appropriate groups or agencies. Management practice data shall be collected in four broad areas; 1) pesticide mixing, loading, and application practices; 2) best management practices; 3) management practices to address ~~others~~wastes other than pesticides (salt, sediment, nitrogen, etc.); and 4) irrigation and cultural practices. With this information ~~and other~~ information, the Coalition Group will determine the effectiveness of management practices in reducing loading of ~~constituents of concern (COCs)~~ and in protecting waters of the ~~S~~state. This determination of effectiveness will take into account ongoing pilot projects being implemented to develop additional management practices. (Previously part of Section I.1 – fourth bullet)

~~TENTATIVE~~ MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-~~0833~~
FOR COALITION GROUPS UNDER
~~RESOLUTION ORDER~~ NO. R5-2005-~~3-0105~~
~~COALITION GROUP~~ CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 9 -

~~Water Quality and Flow Monitoring~~

~~—~~

~~☐ Pesticide Use Evaluation~~

~~—The most significant factors influencing the amount of pesticides in surface waters are the~~

~~☐ Management Practice Effectiveness~~

~~—Information on management practices will be~~

~~2. Monitoring Phases~~

~~The MRP Plan shall describe a phased monitoring approach and provide documentation to support the proposed monitoring program. The program shall not consist of more than three phases. Phase 1 monitoring shall, at a minimum, include analyses of physical parameters, drinking water constituents, pesticide use evaluation, and toxicity testing. Phase 2 monitoring includes chemical analyses of constituents that were identified in toxicity testing in Phase 1 that may include pesticides, metals, inorganic constituents, and nutrients and additional monitoring sites in the watershed. Phase 3 monitoring includes management practice effectiveness and implementation tracking and additional water quality monitoring sites in the upper portions of the watershed.~~

~~A. Monitoring Phase 1~~

~~Monitoring Phase 1 shall include analyses of physical parameters, drinking water constituents, pesticide use evaluation, and toxicity testing. Phase 1 monitoring parameters shall include all 303(d) pollutants identified in downstream waterbody(s) and discharged to land or surface water within the watershed. Phase 1 monitoring parameters shall also include all pesticides listed in the Pesticide Implementation Plan contained within the Water Board's Basin Plan if used within the watershed. General water quality parameters such as temperature, electrical conductivity, pH, and dissolved oxygen indicate contaminants in the watershed. Pesticide Use Evaluation must be conducted to determine the pesticide use pattern in land areas upstream of the monitoring sites. This will also identify the types of pesticides used in the watershed to assist in determining the selection of appropriate species for toxicity testing.~~

~~B. Monitoring Phase 2~~

~~Monitoring Phase 2 will include general physical parameters, pesticide use evaluation, and chemical analyses of pesticides, metals, inorganic constituents and nutrients. Phase 2 will be designed based on the results of Phase 1 monitoring. It is expected that this phase will begin no later than 2 years after the start of the first phase. This phase of monitoring will include general water quality parameters such as temperature, electrical conductivity, pH, and dissolved oxygen to indicate contaminants in the watershed. Pesticide Use Evaluation must be conducted to~~

~~determine the pesticide use pattern and changes in land areas upstream of the monitoring sites. This will also identify any additional or new pesticides used in the watershed to be monitored. Chemical analyses will be conducted in Phase 2 to assess the sources of waste and pesticide loads in discharges from irrigated lands to surface waters and to evaluate performance of management practice implementation efforts. Wastes include the constituents that cause toxicity in Phase 1 monitoring.~~

~~Information must be collected from dischargers on the type of management practices that are being used, the degree to which they are being implemented within the watershed, and how effective they are in protecting waters of the state through all phases of monitoring.~~

C. Monitoring Phase 3

~~Phase 3 monitoring shall be implemented by the Coalition Groups as directed by the Executive Officer. Monitoring Phase 3 shall determine statistically significant changes in waste concentrations based on various management practices. Phase 3 monitoring shall begin no later than two years from the start of Phase 2 monitoring. This phase of monitoring will include general water quality parameters such as temperature, electrical conductivity, pH, and dissolved oxygen to indicate contaminants in the watershed. Pesticide Use Evaluation must be conducted to determine the pesticide use pattern and changes in land areas upstream of the monitoring sites. Information collected from dischargers on the type of management practices that are being used, the degree to which they are being implemented within the watershed, and how effective they are in protecting waters of the state through the previous phases of monitoring. Due to the various land use patterns and rainfall/runoff factors that can affect waste concentrations on an annual basis, it may be difficult to determine success (waste reductions) from single or multiple management practices based on only a year of sampling. Phase 3 shall determine if statistically significant changes in waste concentrations result from the implementation of various management practices. Data should be collected in four broad areas; 1) pesticide mixing, loading, and application practices; 2) pest management practices; 3) management practices to address waste (salt, sediment, nitrogen, etc.), and 4) cultural practices. This information may be used to compare the effectiveness of management practices in reducing waste loads.~~

~~Based on the results of the data collected during the three phases of monitoring, any of the above types of monitoring may be required to be repeated at a specific site or watershed.~~

4.F. Minimum Analytical Monitoring Requirements

~~The following t~~Table 1 ~~lists the minimum requirements for the constituents to be monitored by the Coalition Group. The constituents, parameters, and tests listed in the table are based on known problems and pesticide use information in the Central Valley Region along with tests and parameters needed to effectively evaluate water quality and to characterize agricultural discharges.:~~

(NOTE – A COLUMN FOR CAS WAS ADDED TO THE TABLE – BUT IS NOT SHOWN IN THIS STRIKETHROUGH/EDIT VERSION)

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005- 0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005- 3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 11 -

Table 1. Minimum Analytical Monitoring Requirements

<u>Constituents, Parameters, and Tests</u>	<u>Analytical Methods</u>	<u>Maximum PQL</u>	<u>Reporting Unit</u>	<u>Monitoring Phase</u>	<u>Minimum Sampling Frequency</u>
Physical Parameters				-	-
Flow	Calculated	1	cfs	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
pH	SM 4500 H&B or EPA 150.1	0.1	pH units	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Electrical Conductivity	EPA 9050A or EPA 120.1	100	µmhos/cm	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Dissolved Oxygen	SM 4500	0.1	mg O ₂ /L	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Temperature	SM 2550	0.1	Degrees Celsius	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Color	SM 2120B	5	Color Unit	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Turbidity	SM 2130B or EPA 180.1	1	NTUs	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Total Dissolved Solids	SM 2540C or EPA 160.1	10	mg/L	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Total Organic Carbon	SM 5310C or EPA 415.1	0.5	ug/L	<u>Phase 1, 2 & 3</u>	<u>(b)</u>
Drinking Water				-	-
Fecal coliform <u>E. coli</u>	SM 9221 <u>B/F</u> or SM 9223	2	MPN/100ml	<u>Phase 1</u>	<u>(b)</u>
Total Organic Carbon	SM 5310C or EPA 415.1	0.5	ug/L	<u>Phase 1</u>	<u>(b)</u>
Toxicity Test (a)				-	-
Algae Toxicity	EPA-821-R-02-013	NA	% <u>Reduction Growth</u>	<u>Phase 1</u>	<u>(b)</u>
Water Column Toxicity <u>(2 species)</u>	EPA 821-R-02-012	NA	% Survival	<u>Phase 1</u>	<u>(b)</u>
Sediment Toxicity	EPA 600-R-99-064	NA	% Survival	<u>Phase 1</u>	<u>(c)</u>
Pesticides				-	-
Carbamates				-	-
Aldicarb	EPA 8321 or EPA 632	0.5	ug/L	<u>Phase 2</u>	<u>(b)</u>
Carbaryl	EPA 8321 or EPA 632	0.5	ug/L	<u>Phase 2</u>	<u>(b)</u>
Carbofuran	EPA 8321 or EPA 632	0.5	ug/L	<u>Phase 2</u>	<u>(b)</u>
Methiocarb	EPA 8321 or EPA 632	0.5	ug/L	<u>Phase 2</u>	<u>(b)</u>
Methomyl	EPA 8321 or EPA 632	0.5	ug/L	<u>Phase 2</u>	<u>(b)</u>
Oxamyl	EPA 8321 or EPA 632	0.5	ug/L	<u>Phase 2</u>	<u>(b)</u>
Organochlorines				-	-
DDD	EPA 608 or EPA 8081A	0.02	ug/L	<u>Phase 2</u>	<u>(b)</u>
DDE	EPA 608 or EPA 8081A	0.01	ug/L	<u>Phase 2</u>	<u>(b)</u>
DDT	EPA 608 or EPA 8081A	0.01	ug/L	<u>Phase 2</u>	<u>(b)</u>
Dicofol	EPA 608 or EPA 8081A	0.1	ug/L	<u>Phase 2</u>	<u>(b)</u>
Dieldrin	EPA 608 or EPA 8081A	0.01	ug/L	<u>Phase 2</u>	<u>(b)</u>
Endrin	EPA 608 or EPA 8081A	0.01	ug/L	<u>Phase 2</u>	<u>(b)</u>
Methoxychlor	EPA 608 or EPA 8081A	0.05	ug/L	<u>Phase 2</u>	<u>(b)</u>
Organophosphorus				-	-
Azinphos-methyl	EPA 8141A or EPA 614	0.1	ug/L	<u>Phase 2</u>	<u>(b)</u>
Chlorpyrifos	EPA 8141A or EPA 614	0.02	ug/L	<u>Phase 2</u>	<u>(b)</u>
Diazinon	EPA 8141A or EPA 614	0.02	ug/L	<u>Phase 2</u>	<u>(b)</u>
<u>Dichlorvos</u>	<u>EPA 8141A or EPA 614</u>	<u>0.1</u>	<u>ug/L</u>		
Dimethoate	EPA 8141A or EPA 614	0.1	ug/L	<u>Phase 2</u>	<u>(b)</u>
<u>Dimeton-s</u>	<u>EPA 8141A or EPA 614</u>	<u>0.1</u>	<u>ug/L</u>		
Disulfoton	EPA 8141A or EPA 614	0.1	ug/L	<u>Phase 2</u>	<u>(b)</u>
Malathion	EPA 8141A or EPA 614	0.1	ug/L	<u>Phase 2</u>	<u>(b)</u>

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 12 -

Constituents, Parameters, and Tests	Analytical Methods	Maximum PQL	Reporting Unit	Monitoring Phase	Minimum Sampling Frequency
Methamidophos	EPA 8141A or EPA 614	0.2	ug/L	Phase 2	(b)
Organophosphorus (continued)					
Methidathion	EPA 8141A or EPA 614	0.1	ug/L	Phase 2	(b)
Parathion-methyl	EPA 8141A or EPA 614	0.1	ug/L	Phase 2	(b)
Phorate	EPA 8141A or EPA 614	0.2	ug/L	Phase 2	(b)
Phosmet	EPA 8141A or EPA 614	0.2	ug/L	Phase 2	(b)
Pyrethroids					
Biphenethrin	EPA 1660 or EPA 8081A	0.05	ug/L	Phase 2	(b)
Cyfluthrin	EPA 1660 or EPA 8081A	0.05	ug/L	Phase 2	(b)
Cypermethrin	EPA 1660 or EPA 8081A	0.05	ug/L	Phase 2	(b)
Esfenvalerate	EPA 1660 or EPA 8081A	0.05	ug/L	Phase 2	(b)
Lambda-Cyhalothrin	EPA 1660 or EPA 8081A	0.05	ug/L	Phase 2	(b)
Permethrin	EPA 1660 or EPA 8081A	0.05	ug/L	Phase 2	(b)
Herbicides					
Atrazine	EPA 619 or EPA 507	0.5	ug/L	Phase 2	(b)
Cyanazine	EPA 619 or EPA 507	0.5	ug/L	Phase 2	(b)
Diuron	EPA 8321 or EPA 632	0.5	ug/L	Phase 2	(b)
Glyphosate	EPA 547	5	ug/L	Phase 2	(b)
Linuron	EPA 8321 or EPA 632	0.5	ug/L	Phase 2	(b)
Molinate	EPA 634 or EPA 507	0.5	ug/L	Phase 2	(b)
Paraquat dichloride	EPA 549.1	0.5	ug/L	Phase 2	(b)
Simazine	EPA 619 or EPA 507	0.5	ug/L	Phase 2	(b)
Thiobencarb	EPA 634 or EPA 507	0.5	ug/L	Phase 2	(b)
Metals					
Arsenic	EPA 200.7, 200.8, or 206.3	1	ug/L	Phase 2	(b)
Boron	EPA 200.7 or 200.8	10	ug/L	Phase 2	(b)
Cadmium	EPA 200.7, 200.8, or 213.2	0.1	ug/L	Phase 2	(b)
Copper	EPA 200.7, 200.8, or 220.2	0.5	ug/L	Phase 2	(b)
Lead	EPA 200.7, 200.8, or 239.2	0.5	ug/L	Phase 2	(b)
Nickel	EPA 200.7, 200.8, or 249.2	1	ug/L	Phase 2	(b)
Selenium	EPA 200.7, 200.8, or 270.3	1	ug/L	Phase 2	(b)
Zinc	EPA 200.7, 200.8, or 289.2	1	ug/L	Phase 2	(b)
Nutrients (d)					
Total Kjeldahl Nitrogen	EPA 351.2 or 351.3	500	ug/L	Phase 2	(b)
Nitrate as Nitrogen NO3	EPA 300.1 or 353.2	50	ug/L	Phase 2	(b)
Nitrite as Nitrogen	EPA 300.1 or 353.2	50	ug/L	Phase 2	(b)
Ammonia	EPA 350.3 or SM4500 NH3	100	ug/L	Phase 2	(b)
Hardness	SM 2340 or EPA 130.1	10,000	ug/l	Phase 2	(b)
Total Phosphorous	EPA 365.1, 365.4, or SM 4500-P	1050	ug/L	Phase 2	(b)
Soluble Orthophosphate	EPA 300.1, 365.1, or SM 4500-P	1050	ug/L	Phase 2	(b)
Sediment Sampling (c)					
Pesticides – Pyrethroids					
(e)					
<u>Biphenethrin</u>	<u>EPA 1660 or EPA 8081A</u>	<u>1.0</u>	<u>ug/kg</u>		
<u>Cyfluthrin</u>	<u>EPA 1660 or EPA 8081A</u>	<u>1.0</u>	<u>ug/kg</u>		
<u>Cypermethrin</u>	<u>EPA 1660 or EPA 8081A</u>	<u>1.0</u>	<u>ug/kg</u>		
<u>Esfenvalerate</u>	<u>EPA 1660 or EPA 8081A</u>	<u>1.0</u>	<u>ug/kg</u>		

TENTATIVE MONITORING AND REPORTING PROGRAM
 ORDER NO. R5-2005-0833
 FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
 -WASTE DISCHARGE REQUIREMENTS
 FOR DISCHARGES FROM IRRIGATED LANDS

<u>Constituents, Parameters, and Tests</u>	<u>Analytical Methods</u>	<u>Maximum PQL</u>	<u>Reporting Unit</u>	<u>Monitoring Phase</u>	<u>Minimum Sampling Frequency</u>
<u>Lambda-Cyhalothrin</u>	<u>EPA 1660 or EPA 8081A</u>	<u>1.0</u>	<u>ug/kg</u>		
<u>Permethrin</u>	<u>EPA 1660 or EPA 8081A</u>	<u>1.0</u>	<u>ug/kg</u>		

- a The methods and PQLs are reasonable goals in terms of laboratory availability and capability, and Coalition Groups should strive to meet them. If the Coalition Group contract laboratory proposes alternative methods or PQLs, the proposed alternatives and rationale for the changes must be detailed in the QAPP. Any alternative PQL must be approved by the Executive Officer prior to use.
- b In addition to TIEs, sites identified as toxic in the initial screen shall be re-sampled (as required in Section I.F Minimum Analytical Monitoring Requirements) to estimate the duration of the toxicant in the water body. Additional samples upstream of the original site should also be collected to determine the potential source(s) of the toxicant in the watershed. The sampling volume submitted to the laboratory shall be twice the volume needed for the toxicity test. The chain-of-custody form sent to the laboratory shall include a note that the additional volume of sample is for the TIE, if results show TIE is required.
- c Monitoring frequency is monthly during irrigation season and sampling of two major storm events during the storm season.
- d Sediment Toxicity-Monitoring frequency is one sample during the irrigation season and one sample during the storm/dormant season. Alternative methods may be used for analysis of nutrients provided the methods are approved by the National Environmental Laboratory Accreditation Program. Alternative methods must be included in the Coalition Group's QAPP and are subject to approval by the Executive Officer-Water Board.
- e Laboratory shall report values between the PQL and method detection limit as estimated and flag with a "j" qualifier.
- | | | | |
|------------|---|------------|----------------------------------|
| PQL | Practical Quantitation Limit | MPN | Most Probable Number |
| cfs | cubic feet per second | NTU | Nephelometric turbidity unit |
| mg/L | milligrams per liter | ug/L | micrograms per liter |
| ml | milliliters | mg | milligrams |
| umhos/cm | micromhos per centimeter | NA | Not applicable |
| <u>H+B</u> | <u>Hydrogen ion analysis, Section B</u> | <u>CAS</u> | <u>Chemical Abstract Service</u> |

Method detection limits and practical quantitation limits shall be reported. All peaks detected on chromatograms shall be reported, including those that cannot be quantified and/or specifically identified. The Coalition Group shall use USEPA approved methods, provided the method can achieve method detection limits equal to or lower than analytical methods practical quantitation limits specified in this Order.

Data collected must be submitted to the Executive Officer for review and approval and must include a sufficient number of monitoring sites and surface water flow monitoring for each monitoring site to allow calculation of the load discharged for every parameter monitored. All data must be submitted electronically to Program staff in Surface Water Ambient Monitoring Program (SWAMP) comparable format to the Central Valley Water Board.

At a minimum, the MRP Plan must clearly demonstrate: 1) compliance with requirement of all phases of monitoring as described in this MRP; 2) sufficient number of monitoring sites based on acreages and watershed characteristics, flow monitoring, and frequency of sample collection to allow for the calculation of load discharged for every waste parameter monitored; and 3) the use of proper sampling techniques and laboratory procedures to ensure a sample is representative of the site and is performed in the laboratory using approved methodologies

Watershed Specific Requirements

7. Monitoring Schedule

~~At a minimum, each phase of the above referenced monitoring shall be conducted during two major storm events and monthly sampling during the peak irrigation season for one year, unless otherwise approved by the Executive Officer.~~

II. QUALITY ASSURANCE PROJECT PLAN (QAPP)

To create a sound and consistent watershed or regional MRP Plan, it is important to develop monitoring protocols and a monitoring plan ~~to for the evaluation of~~ water quality data. ~~The Coalition Group must develop a~~ QAPP ~~must be developed by the Coalition Group~~ to include watershed and site-specific information, project organization and responsibilities, and quality assurance components of the monitoring program. ~~A QAPP specific to the Coalition Group's geographical area is required to be submitted with the MRP Plan. Surface Water Ambient Monitoring Program (The SWAMP)~~ QAPP is a comprehensive quality assurance plan that includes many of the elements required under this MRP. ~~MRP Attachment BA~~ presents the MRP QAPP Requirements and the outline for development of the ~~Coalition Group monitoring~~ QAPP. The QAPP includes the laboratory and field requirements to be used for data evaluation. Coalition Groups may use ~~elements of~~ the SWAMP QAPP as an available resource ~~to build the foundation of the Coalition Group QAPP. The addition of and add the site-specific requirements and any other elements that are required under this MRP will be necessary to build a comprehensive Coalition Group QAPP applicable to this Program. A Watershed specific QAPP is required to be submitted with the Watershed Evaluation Report. The Watershed Evaluation Report is a condition of the Conditional Waiver.~~

III. REPORTING REQUIREMENTS

Pursuant to California Water Code Section 13267, the following ~~technical r~~Reports are required to be submitted to the ~~Central Valley~~ Water Board by a time schedule established by the Executive Officer.

~~A. Watershed Evaluation Report~~

~~Upon the request of the Executive Officer the Coalition Group shall compile and submit a Watershed Evaluation Report containing the following information:~~

~~1. Watershed Setting~~

- ~~—Map(s) of watershed area showing irrigated lands (including crop type), drainage and discharge locations. Maps or discussion shall provide details of the watershed showing which fields are served by each drain;~~
- ~~—Information on crops grown in the watershed or subwatershed area, production practices, chemicals used, and application methods (including timing of application) within the watershed and other factors that may impact the quality of discharges;~~
- ~~□ Historical water quality monitoring results;~~

~~TENTATIVE~~ MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-~~0833~~
FOR COALITION GROUPS UNDER
~~RESOLUTION ORDER~~ NO. R5-2005-~~3-0105~~
~~COALITION GROUP~~ CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 15 -

- ~~□ Documentation of existing receiving water quality data and quality of typical irrigation discharges;~~
- ~~□ Known water quality issues, water quality limited waterbodies, and potential water quality problems;~~
- ~~□ Known programs addressing the water quality issues associated with discharges from irrigated lands; and~~
- ~~□ Discussion of practices in use and available programs to address problems from irrigated agricultural discharges (e.g. tailwater return systems, irrigation efficiency improvements, UC Coop Ext. and NRCS grower outreach, EQIP, etc.).~~

2. Watershed Priorities

~~Based on the information available, the Coalition Group shall identify its priorities with respect to work on specific subwatersheds and water quality parameters. (Moved to Section III.A)~~

B.A. ~~Monitoring and Reporting Program~~ MRP Plan (Previously Section III.B)

~~The MRP Plan must include Upon the request of the Executive Officer the Coalition Group must submit an MRP Plan that includes the components of the monitoring program as stated in this MRP Order, including the Long-Term Monitoring Strategy. At a minimum, tThe MRP Plan mustshall clearly demonstrate: 1) compliance with all monitoring requirements; 2) sufficient number of monitoring sites based on watershed characteristics, flow monitoring, and frequency of sample collection to allow for the calculation of load discharged from each parameter monitored; and 3) the use of proper sampling techniques and laboratory procedures to ensure a sample is representative of the site and is performed in the laboratory using approved methodologies.~~

~~The MRP Plan shall specify all quality assurance elements including the USEPA test methods and method detection limits for the required constituents as specified in the QAPP for Monitoring Program Requirements, Attachment A. At a minimum, the MRP Plan shall include the following elements:~~

1. Description of the Coalition Group geographical area~~watershed~~ including characteristics relevant to the monitoring;
2. Summary of the historical data and on-going monitoring;
- ~~3. Description of Monitoring Phases;~~
- ~~4.3. Monitoring sites;~~
- ~~5.4. Land uUse description;~~
- ~~6. Sampling locations;~~
- ~~7.5. Detailed mMap(s) of Coalition Group area showing irrigated lands (including crop type), the land use and sampling locations, drainage and discharge locations. Maps or discussion shall provide details of the Coalition Group areas showing which fields are served by each drain; (Moved From Section III.A.1 – First Bullet)~~
6. Color aerial photos submitted electronically;

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 16 -

7. Information on crops grown in the watershed or subwatershed area, chemicals used, and application methods (including timing of application) within the Coalition Group area and other factors that may effect the quality of discharges; (*Moved from Section III.A.1 – Second Bullet*)
8. Monitoring periods; including description and frequencies of monitoring events; Describe irrigation and storm seasons, propose specific irrigation and storm season monitoring, and discuss when peak irrigation and storm discharges are likely to occur;
9. Documentation of existing receiving water quality data and quality of typical irrigation discharges; Monitoring parameters; (*Moved from Section III.A.1 – Fourth Bullet*)
10. Known and potential water quality impairments and water quality limited water bodies; (*Moved from Section III.A.1 – Fifth Bullet*)
11. Discussion of practices in use and available programs to mitigate problems from irrigated agricultural discharges e.g. tailwater return systems, irrigation efficiency improvements, U.C. Cooperative Extension and NRCS grower outreach, etc. (*Moved from Section III.A.1- Seventh Bullet*)
12. Monitoring periods; including description and frequencies of monitoring events; (*Previously #8 Of This List*)
- 10-13. Parameters to be monitored including minimum and site specific requirements;
- 11-14. A Coalition Group QAPP consistent with the requirements described in **MRP Attachment BA**;
- 12-15. Documentation of monitoring protocols including sample collection methods and Laboratory Quality Assurance manual;
- 13-16. Laboratory Quality Assurance manual must describe analytical methods; internal quality control (QC) samples, frequency of QC sample analyses and acceptance criteria; calibration procedures and acceptance criteria; instrumentation and, other technical capabilities of the laboratory Long Term Monitoring Strategy; and
17. Implementation Plan;
- 14-18. Watershed Coalition Group contact information; and
19. Signed Transmittal letter.

To achieve the objectives of this MRP, at a minimum, the Coalition Group shall conduct the types of monitoring, including assessment and compliance monitoring described in this MRP. The Coalition Group shall be responsible for and evaluation listed below. The monitoring the effectiveness of identified management practices through the will be conducted during different phases of the MRP Plan. (*Previously in Section I.I*)

The MRP Plan shall include a Long-Term Monitoring Strategy, which shall be provided as an addendum by Coalition Groups that have already submitted a MRP Plan for Central Valley Water Board Executive Officer approval. The purpose of the Long-Term Monitoring Strategy is to form and outline an on-going monitoring schedule to assess the Coalition Group areas in a systematic manner. The Long-Term Monitoring Strategy shall discuss assessment monitoring to characterize water quality for the watersheds and compliance monitoring to sample sites with an exceedance(s).

The Coalition Group shall also develop an Implementation Plan to include as an attachment to the MRP Plan to identify and track the progress of ~~water quality~~-management practices to protect water quality within the watershed when a receiving water limitation quality exceedance is found ~~as described on page 3~~. This plan may address water quality issues related to the discharge of irrigation return flows separately from stormwater discharges and shall include a schedule for implementation of management practices that may include, but is not limited to, grower education, and technical and financial assistance. The Implementation Plan shall summarize strategies to respond to possible exceedance scenarios. (Previously Section III.A.3.1)

Based on the information available, the Coalition Group shall identify its priorities with respect to monitoring and management practice development at specific locations with the Coalition Group area work on specific subwatersheds and water quality parameters that will need to be considered. (Previously Section III.A.2) The Coalition Group shall also identify follow-up monitoring sites that will be utilized, if exceedances are found during any of the monitoring events. The follow-up monitoring locations shall be identified on a map and a rationale for the site selection shall be provided.

B. Technical Reports Based on Receiving Water Limitation Exceedances

The Coalition Group shall provide technical reports if monitoring results show exceedances of receiving water limitations. The following reports are designed to notify Central Valley Water Board staff of the exceedance, identify the next steps to be taken and a schedule to address the exceedance, and evaluate management practices to determine their effectiveness in preventing future exceedances.

3. Management Practices

~~The Coalition Group shall be responsible for monitoring the success of identified management practices through the MRP Plan as well as the evaluation of the management practices. The MRP Plan shall provide an Implementation Plan for management practices in the watershed and identify pilot projects for the implementation of management practices on prioritized sub-watersheds.~~

3.21. Exceedance Reports

When the Coalition Group determines that a receiving water limitation or water quality objectives ~~s are~~ exceeded at the monitoring location(s), the Coalition Group shall submit an Exceedance Report ~~by email to the~~ designated Central Valley Water Board staff assigned to the Coalition Group by email or fax (916-464-4780) ~~in writing~~ within the next business day describing the exceedance, the follow-up monitoring, and analysis or other actions the Coalition Group may take to address the exceedance. The Coalition Group determination of a receiving water limitation quality exceedance shall occur no later than 5 business days after receiving the laboratory analytical report.

~~3.32.~~ Communication Reports

The Coalition Group shall submit a Communication Report within 45 business days of the Exceedance Report. The Communication Report will describe the follow-up monitoring and analyses that were conducted, what actions were taken to identify the source of the ~~problem~~exceedance, complete analytical laboratory results, and a time schedule to identify and implement management practices as described in Section I.E. Compliance Monitoring of this MRP ~~the Management Practice Effectiveness described on page 3, Section I.1 (4th bullet)~~ and/or other measures to correct the ~~problem~~exceedance, and to submit an Evaluation Report.

~~3.43.~~ Evaluation Reports

The Evaluation Report shall be submitted in accordance with the time schedule submitted in the Communication Report ~~3.3 above~~, or as directed by the Executive Officer. The Evaluation Report shall pertain to the constituents that exceeded the receiving water limitation or water quality objective and include, at a minimum, description of management practice(s) or other measures implemented, target chemical(s), reasons for implementing the specific practice or measure, methodology for evaluating the effectiveness of the practice or measure (including sampling and quality assurance/quality control plans), and involvement by stakeholders and agencies in developing, implementing and evaluating the practice or measure.

C. ~~Semi-Annual~~ Monitoring Reports

The ~~Semi-Annual~~ Monitoring Reports (~~Semi-Annual Report~~) shall be submitted by 30 June (Storm Season Monitoring Report), covering the period of 1 November through 30 April, and 31 December (Irrigation Season Monitoring Report), covering the period of 1 May through 31 October, and 30 June, covering the period of 1 November through 30 April, of each year. Each ~~Semi-Annual~~ monitoring Report shall include the following components:

1. Title page;
2. Table of contents;
3. Description of the Coalition Group geographical area~~watershed~~;
4. Monitoring objectives;
5. Sampling site descriptions;
6. Location map(s) of sampling sites and land use;
7. Tabulated results of all analyses arranged in tabular form so that the required information is readily discernible (example table is included in MRP Attachment C);

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 19 -

8. Discussion of data to clearly illustrate compliance with the Coalition Group Conditional Waiver:

- 8-9. Sampling and analytical methods used;
- 9-10. Copy of chain--of--custody formsies;
- 10-11. Associated laboratory and field QC samples results;
- 11-12. Summary of laboratory precision and accuracy;
- 12-13. Pesticide use information;
- 13-14. Data interpretation including assessment of data quality objectives;
- 15. Summary table presenting results;
- 16. Calculation of the load discharged for appropriate parameters;
- 14-17. Summary of management practices used;
- 15-18. Actions taken to address water quality impairmentsets identified, including but not limited to, revised or additional management practices to be implemented;
- 16-Summary of Exceedance, Communication, and Evaluation, and follow-up R-reports submitted during the reporting period; and
- 17-19. Conclusions and recommendations; and
- 20. Signed Transmittal letter.

Copies of all field documentation and laboratory original data must be included in the Semi-Annual monitoring R-reports as attachments. The Semi-Annual monitoring R-reports should also need to provide informationa perspective of the on field conditions at sampling times including a description of the weather, rainfall, temperature, stream flow, color of the water, odor, and other relevant information that can help in data interpretation. The monitoring reports must also document the results of water quality monitoring, describe actions taken to correct water quality impairments and nuisance conditions, and identify future actions necessary to improve and protect water quality.

In reporting monitoring data, the Coalition Groups shall arrange the data in tabular form so that the required information is readily discernible. An example table for providing tabulated monitoring results is provided in MRP Attachment C. The data shall be summarized in such a manner to clearly illustrate compliance with the Coalition Group Conditional Waiver.

A transmittal letter shall accompany each report. This letter shall include a discussion of any violations of the Coalition Group Conditional Waiver found during the reporting period, and actions taken or planned for correcting noted violations, such as operational, field or facility modifications. If the Coalition Group has previously submitted an Exceedance, Communication, or Evaluation Report describing actions and/or a time schedule to for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall be signed and contain a penalty of perjury statement by the Coalition Group, or the Coalition Group's authorized agent. This statement shall state:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering

TENTATIVE MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2005-0833
FOR COALITION GROUPS UNDER
RESOLUTION ORDER NO. R5-2005-3-0105
COALITION GROUP CONDITIONAL WAIVER OF
-WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 20 -

the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for violations."

The ~~Water Board Executive Officer~~ may request Coalition Groups and/or ~~individual~~ its member Dischargers to take additional actions if monitoring data ~~indicates~~ shows exceedances of receiving the water ~~limitations~~ quality objectives are exceeded in surface waters. The Executive Officer may also increase the monitoring requirements where monitoring results, pesticide use patterns, or other indicators suggest that the increase is warranted.

Based on results of the monitoring program after a minimum of one year, the Coalition Group may submit a revised MRP Plan and/or Long Term Monitoring Strategy requesting a reduction in the constituents monitored and/or sample frequency. If such reductions are warranted, the revised MRP Plan may be revised by the Executive Officer.

The Coalition Group, on behalf of ~~its~~ the individual member ~~D~~ischargers, shall implement the above monitoring program in accordance with as of the date provided in the Notice of Applicability (NOA). For Coalition Groups that have already received a NOA, the above monitoring program shall be implemented within 120 days of the date of this MRP Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

(Date)

MRP Attachment A – Example field data sheet
MRP Attachment B - Quality Assurance Project Plan (no changes proposed)
MRP Attachment C – Example Table For Providing Tabulated Monitoring Results